

FEATURES

BENEFITS

FLAG INDICATOR:

SHOWS RELAY STATUS IN MANUAL OR POWERED CONDITION.

BI - POLAR L.E.D. STATUS LAMP:

ALLOWS FOR REVERSE POLARITY APPLICATIONS, SHOWS COIL "ON" OR "OFF" STATUS. IDEAL IN LOW LIGHT CONDITIONS.

COLOR CODED PUSH BUTTON:

IDENTIFIES AC COILS WITH RED OR DC COILS WITH BLUE PUSH BUTTONS. ALLOWS FOR MANUAL OPERATION OF RELAY WITHOUT THE NEED FOR COIL POWER. IDEAL FOR FIELD SERVICE PERSONNEL TO TEST CONTROL CIRCUITS.

LOCK-DOWN DOOR:

WHEN ACTIVATED, HOLDS PUSH BUTTON AND CONTACTS IN THE OPERATE POSITION. EXCELLENT FOR ANALYZING CIRCUIT PROBLEMS.

FINGER - GRIP COVER:

ALLOWS OPERATOR TO REMOVE RELAYS FROM SOCKETS MORE EASILY THAN CONVENTIONAL RELAYS.

WHITE PLASTIC I.D. TAG/WRITE LABEL:

USED FOR IDENTIFICATION OF RELAYS IN MULTI-RELAY CIRCUITS.

COVER ADAPTERS:

DIN RAIL ADAPTER OR TOP/BOTTOM FLANGE ADAPTER, ALLOWS THE 700 RELAYS TO BE DIRECT MOUNTED TO A DIN RAIL OR PANEL.



UL Recognized
File No. E43641



40787



COMPLIES WITH REQUIREMENTS OF

* IEC STANDARDS 947-4-1 AND 947-5-1 LOW VOLTAGE DIRECTIVE

* IEC = INTERNATIONAL ELECTROTECHNICAL COMMISSION

* CE TESTING AND EVALUATION PERFORMED BY THE UNDERWRITERS LABORATORIES AS A THIRD PARTY PARTICIPANT



LISTED 367G
IND. CONT. EQ.

WHEN USED WITH SOCKETS:

781:70-781D-1

782:70-782D-1

70-459-1

70-461-1

783:70-783D-1

784:70-784D-1

CURRENT LIMITED TO RATING OF RELAY OR SOCKET WHICHEVER IS LESS

MANUFACTURED UNDER ISO 9002 & QS 9000

781
SPDT
15 AMPS



782
SPDT
20 AMPS
DPDT
15 AMPS



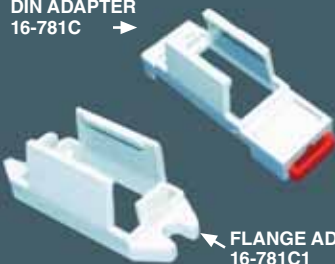
783
3PDT
15 AMPS



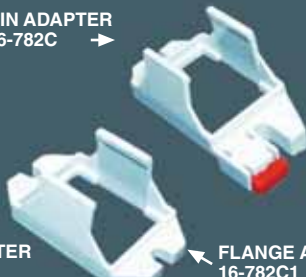
784
4PDT
15 AMPS



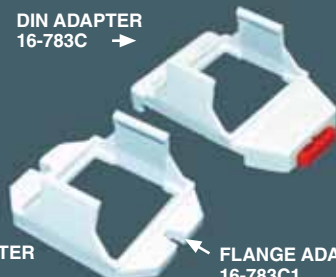
DIN ADAPTER
16-781C



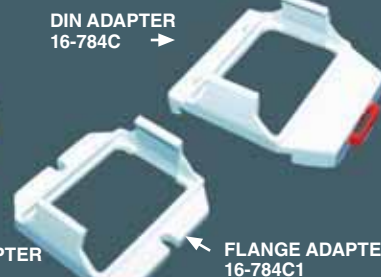
DIN ADAPTER
16-782C



DIN ADAPTER
16-783C



DIN ADAPTER
16-784C



FLANGE ADAPTER
16-781C1

FLANGE ADAPTER
16-782C1

FLANGE ADAPTER
16-783C1

FLANGE ADAPTER
16-784C1

OPTIONAL ADAPTERS ORDERED SEPARATELY





GENERAL SPECIFICATIONS (@ 25°C)

| | UNITS | 781XAX | 782XAX | 782XBX | 783 | 784 |
|---|-----------------------|--|---|---|---|---|
| COIL | | | | | | |
| Pull-in Voltage AC (50/60 Hz):≤ | % of nominal | 85 | 85 | 85 | 85 | 85 |
| Pull-in Voltage DC:≤ | % of nominal | 80 | 80 | 80 | 80 | 80 |
| Dropout Voltage AC (50/60 Hz):≥ | % of nominal | 10 | 10 | 10 | 10 | 10 |
| Dropout Voltage DC:≥ | % of nominal | 10 | 10 | 10 | 10 | 10 |
| Maximum Voltage: | % of nominal | 110 | 110 | 110 | 110 | 110 |
| Resistance: | % ± | 15 | 15 | 15 | 15 | 15 |
| Coil Power AC (60 Hz): | VA | 0.9 | 1.2 | 1.2 | 1.5 | 1.5 |
| Coil Power DC: | W | 0.7 | 0.9 | 0.9 | 1.7 | 2 |
| Insulation System Per UL Standard 1446: | | Class B (130 °C) | Class B (130 °C) | Class B (130 °C) | Class B (130 °C) | Class B (130 °C) |
| Maximum Coil Dissipation, AC (60 Hz): | VA | 2.55 | 2.55 | 2.55 | 3 | 3 |
| Maximum Coil Dissipation, DC: | W | 2.3 | 2.3 | 2.3 | 3.4 | 2.3 |
| Duty: | | Continuous | Continuous | Continuous | Continuous | Continuous |
| CONTACTS | | | | | | |
| Contact Material: | | Silver alloy, gold flashed | Silver alloy, gold flashed | Silver alloy, gold flashed | Silver alloy, gold flashed | Silver alloy, gold flashed |
| Contact Rating AC Amperes (AC1): | A | 15 | 20 | 15 / 12 | 15 / 12 | 15 / 12 |
| Contact Rating AC Voltage: | V | 277 | 277 | 120 / 277 | 120 / 277 | 120 / 277 |
| Contact Rating DC Amperes (DC1): | A | 15 / 0.5 | 20 / 0.5 | 12 / 0.5 | 15 / 0.5 | 15 / 0.5 |
| Contact Rating DC Voltage: | V | 28 / 220 | 28 / 220 | 28 / 220 | 28 / 220 | 28 / 220 |
| General Purpose Rating (75%-80% pf): | A @ V | 10 @ 240 | | | | |
| Horse Power (AC): | HP | 1/2 @ 120 V | 1/2 @ 120 V | 1/2 @ 120 V | 1/2 @ 120 V | 1/2 @ 120 V |
| Horse Power (AC): | HP | 1 @ 250 V | 1 @ 250 V | 1 @ 250 V | 3/4 @ 250 V | 3/4 @ 250 V |
| Pilot Duty (60 Hz): | | B300 | B300 | B300 | B300 | B300 |
| Utilization Category: | IEC | AC15 | AC15 | AC15 | AC15 | AC15 |
| VA Rating Make: | VA | 3600 | 3600 | 3600 | 3600 | 3600 |
| VA Rating Break: | VA | 360 | 360 | 360 | 360 | 360 |
| Minimum Recommended Load: | ma | 100 @ 5 VDC or 0.5 W | 100 @ 5 VDC or 0.5 W | 100 @ 5 VDC or 0.5 W | 100 @ 5 VDC or 0.5 W | 100 @ 5 VDC or 0.5 W |
| TIMING | | | | | | |
| Operate Time: | ms | 20 | 20 | 25 | 25 | 20 |
| Release Time: | ms | 20 | 20 | 20 | 20 | 20 |
| DIELECTRIC STRENGTH | | | | | | |
| Coil to Contacts: | V rms | 2500 | 2500 | 2500 | 2500 | 2500 |
| Across Open Contacts: | V rms | 1500 | 1500 | 1000 | 1000 | 1000 |
| Pole to Pole: | V rms | | | 2500 | 2500 | 2500 |
| Insulation Resistance: | megohms minimum @ VDC | 100 @ 500 | 100 @ 500 | 100 @ 500 | 100 @ 500 | 100 @ 500 |
| VIBRATION RESISTANCE | | | | | | |
| Functional: | g's | 10-55 Hz, 6 g's, 1mm double amplitude | 10-55 Hz, 6g's 1mm double amplitude | 10-55 Hz, 6g's 1mm double amplitude | 10-55 Hz, 6g's 1mm double amplitude | 10-55 Hz, 6g's 1mm double amplitude |
| SHOCK RESISTANCE | | | | | | |
| Functional: | g's | 10 | 10 | 10 | 10 | 10 |
| TEMPERATURE | | | | | | |
| Operating, AC Lower: | °C | -40 | -40 | -40 | -40 | -40 |
| Operating, AC Upper: | °C | +70 | +70 | +70 | +70 | +70 |
| Operating, DC Lower: | °C | -40 | -40 | -40 | -40 | -40 |
| Operating, DC Upper: | °C | +70 | +70 | +70 | +70 | +70 |
| Storage, Lower: | °C | -40 | -40 | -40 | -40 | -40 |
| Storage, Upper: | °C | +105 | +105 | +105 | +105 | +105 |
| LIFE EXPECTANCY | | | | | | |
| Electrical @ Rated Load (AC1): | operations | 15 A: 100,000 20 A: 50,000 | 100,000 | 200,000 | 150,000 | 150,000 |
| Mechanical @ no Load : | operations | 10,000,000 | 10,000,000 | 10,000,000 | 10,000,000 | 10,000,000 |
| MISCELLANEOUS | | | | | | |
| Operating Position: | | Any | Any | Any | Any | Any |
| Insulation Material: | 94V-0 | Molded plastic | Molded plastic | Molded plastic | Molded plastic | Molded plastic |
| Enclosure Material: | 94V-0 | Polycarbonate | Polycarbonate | Polycarbonate | Polycarbonate | Polycarbonate |
| Cover Protection Category: | IP | 40 | 40 | 40 | 40 | 40 |
| Terminals: | Inch (mm) | 0.187, 0.1, 0.08 x 0.020 (4.47, 2.54, 2.03 x 0.508) | 0.187, 0.08 x 0.020 (4.47, 2.03 x 0.508) | 0.187, 0.08 x 0.020 (4.47, 2.03 x 0.508) | 0.187, 0.08 x 0.020 (4.47, 2.03 x 0.508) | 0.187, 0.08 x 0.020 (4.47, 2.03 x 0.508) |
| Weight: | grams | 29 | 36 | 36 | 60 | 80 |

782/78 - 2 POLE "ICE CUBE" POWER RELAYS



DPDT, 15 AMPS

WIRING DIAGRAM (VIEWED FROM PIN END)



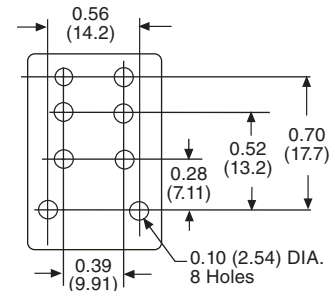
ALTERNATE NEMA
OR IEC () NUMBERS
VIEWED FROM
PIN SIDE

OUTLINE DIMENSIONS DIMENSIONS SHOWN IN INCHES & (MILLIMETERS).



PRINTED CIRCUIT TERMINALS

PRINTED CIRCUIT MOUNTING HOLE LAYOUT (TOP VIEW)



ORDERING CODE

782 **XBX** **M4L** **-120A**

CLASS: _____

CONTACT CONFIGURATION:
DPDT: **XBX**

OPTIONAL PLAIN COVER:
CODE **C**

TERMINAL STYLE:
QUICK CONNECTSOLDER/
PLUG-IN TERMINALS: **NO CODE**
PRINTED CIRCUIT TERMINALS:
CODE **T**

FULL FEATURED VERSION:
PUSH BUTTON &
LOCK-DOWN DOOR: **CODE M4**
BI - POLAR L.E.D. STATUS LAMP: **CODE L**

OPTIONAL FULL FEATURED DELETION:
PUSH BUTTON WITHOUT
LOCK-DOWN DOOR: **CODE M**

OPTIONAL PLAIN COVER FEATURES:
PUSH BUTTON WITHOUT
LOCK-DOWN DOOR: **CODE M**
POLARIZED L.E.D. STATUS LAMP: **CODE L**
(OBSERVE POLARITY+)

COIL VOLTAGE: _____
6, 12, 24, 120, 220/230, 240 **ADD "A" FOR AC COILS**
6, 12, 24, 48, 110 **ADD "D" FOR DC COILS**



Mating Sockets
70-782D-1, 70-459-1: SCREW/DIN
70-402-1: PRINTED CIRCUIT
70-401-1: SOLDER TERMINAL
See section 7

| STANDARD PART NUMBERS | | | COIL MEASURED @ 25°C | |
|--------------------------------|-----------------------|------------------------|-----------------------|---------------------------|
| FULL FEATURED | PLAIN COVER WITH FLAG | | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| SOLDER/PLUG-IN, 15 AMP | | | | |
| | | DUAL MARKED | | |
| | | NEW PART NUMBER | SUPERCEDES | |
| | | 782XBXC-6A | W78ARCSX-7 | 6 VAC, 50/60Hz |
| 782XBXM4L-24A | 782XBXC-24A | W78ARCSX-9 | 24 VAC, 50/60Hz | 180 Ω |
| 782XBXM4L-120A | 782XBXC-120A | W78ARCSX-11 | 110/120 VAC, 50/60Hz | 4,430 Ω |
| 782XBXM4L-220/230A | | | 220/230 VAC, 50/60Hz | 15,000 Ω |
| 782XBXM4L-240A | 782XBXC-240A | W78ARCSX-12 | 240 VAC, 50/60Hz | 15,700 Ω |
| | 782XBXC-6D | W78RCSX-6 | 6 VDC | 40 Ω |
| 782XBXM4L-12D | 782XBXC-12D | W78RCSX-7 | 12 VDC | 160 Ω |
| 782XBXM4L-24D | 782XBXC-24D | W78RCSX-8 | 24 VDC | 650 Ω |
| | 782XBXC-48D | W78RCSX-9 | 48 VDC | 2600 Ω |
| 782XBXM4L-110D | 782XBXC-110D | W78RCSX-10 | 110/125 VDC | 11,000 Ω |
| PRINTED CIRCUIT, 15 AMP | | | | |
| | 782XBXC-24A | W78ARPCX-3 | 24 VAC, 50/60Hz | 180 Ω |
| | 782XBXC-120A | W78ARPCX-6 | 110/120 VAC, 50/60Hz | 4,430 Ω |
| | 782XBXC-6D | W78RPCX-1 | 6 VDC | 40 Ω |
| | 782XBXC-12D | W78RPCX-2 | 12 VDC | 160 Ω |
| | 782XBXC-24D | W78RPCX-3 | 24 VDC | 650 Ω |

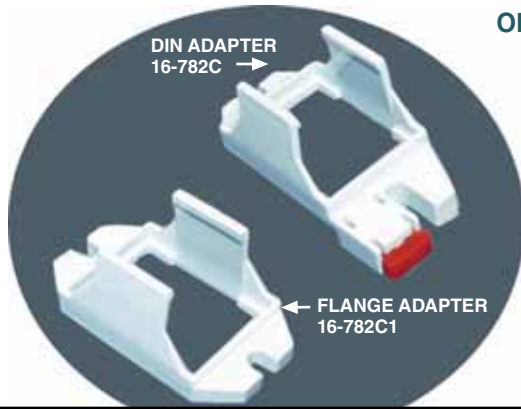
NOTE: CLASS 782C IS AN ENHANCED VERSION OF THE 78, IT HAS SUPERIOR RATINGS, A FLAG INDICATOR, & DISPLAYS BOTH PART NUMBERS.

782 - 2 & 4 POLE "ICE CUBE" CONTROL RELAY



DPDT & 4PDT, 1, 3, 5 & 10 AMPS

OPTIONAL ADAPTERS
ORDERED SEPARATELY



Mating Sockets
70-461-1, SCREW/DIN
70-378-1: SOLDER
70-379-1: PRINTED CIRCUIT
See section 7

| STANDARD PART NUMBERS | | | | COIL MEASURED @ 25 °C | |
|--|-----------------------|---------------------|---------------------|-----------------------|---------------------------|
| FULL FEATURED | PLAIN COVER WITH FLAG | HERMETICALLY SEALED | FULL FEATURED | NOMINAL INPUT VOLTAGE | NOMINAL RESISTANCE (OHMS) |
| 4PDT | | | | | |
| SOLDER/PLUG -IN, BIFURCATED CONTACTS 3 AMP | | | | | |
| DUAL MARKED | | | | | |
| NEW PART NUMBER | | SUPERCEDES | | | |
| 782XDX3M4L-24A | 782XDX3C-12A | W78ATCSX-2 | | 12 VAC, 50/60 Hz | 46 Ω |
| 782XDX3M4L-120A | 782XDX3C-24A | W78ATCSX-3 | 782XBX3M4L-24A | 24 VAC, 50/60 Hz | 180 Ω |
| 782XDX3M4L-220/230A | 782XDX3C-120A | W78ATCSX-5 | 782XBX3M4L-120A | 110/120 VAC, 50/60 Hz | 4,430 Ω |
| 782XDX3M4L-240A | 782XDX3C-220/230A | | 782XBX3M4L-220/230A | 220/230 VAC, 50/60 Hz | 15,000 Ω |
| | 782XDX3C-240A | W78ATCSX-6 | 782XBX3M4L-240A | 240 VAC, 50/60 Hz | 15,700 Ω |
| | 782XDX3C-6D | W78TCSX-1 | | 6 VDC | |
| 782XDX3M4L-12D | 782XDX3C-12D | W78TCSX-2 | 782XBX3M4L-12D | 12 VDC | 160 Ω |
| 782XDX3M4L-24D | 782XDX3C-24D | W78TCSX-3 | 782XBX3M4L-24D | 24 VDC | 650 Ω |
| 782XDX3M4L-110D | 782XDX3C-110D | W78TCSX-5 | 782XBX3M4L-110D | 110/125 VDC | 11,000 Ω |
| SOLDER/PLUG -IN, CONTACTS 3 AMP | | | | | |
| | 782XDX1C-12A | W78ACXSX-2 | | 12 VAC, 50/60 Hz | 46 Ω |
| 782XDX1M4L-24A | 782XDX1C-24A | W78ACXSX-3 | 782XDXH10-24A | 24 VAC, 50/60 Hz | 180 Ω |
| 782XDX1M4L-120A | 782XDX1C-120A | W78ACXSX-5 | 782XDXH10-120A | 110/120 VAC, 50/60 Hz | 4,430 Ω |
| 782XDX1M4L-220/230A | 782XDX1C-220/230A | | | 220/230 VAC, 50/60 Hz | 15,000 Ω |
| 782XDX1M4L-240A | 782XDX1C-240A | W78ACXSX-6 | | 240 VAC, 50/60 Hz | 15,700 Ω |
| | 782XDX1C-6D | W78CSX-1 | | 6 VDC | |
| 782XDX1M4L-12D | 782XDX1C-12D | W78CSX-2 | 782XDXH10-12D | 12 VDC | 160 Ω |
| 782XDX1M4L-24D | 782XDX1C-24D | W78CSX-3 | 782XDXH10-24D | 24 VDC | 650 Ω |
| 782XDX1M4L-110D | 782XDX1C-110D | W78CSX-6 | 782XDXH10-110D | 110/125 VDC | 11,000 Ω |
| SOLDER/PLUG -IN, CONTACTS 10 AMP | | | | | |
| 782XDX2M4L-24A | 782XDX2C-24A | W78KACXSX-15 | | 24 VAC, 50/60 Hz | 180 Ω |
| 782XDX2M4L-120A | 782XDX2C-120A | W78KACXSX-17 | 782XDXH21-120A | 110/120 VAC, 50/60 Hz | 4,430 Ω |
| 782XDX2M4L-220/230A | 782XDX2C-220/230A | | | 220/230 VAC, 50/60 Hz | 15,000 Ω |
| 782XDX2M4L-240A | 782XDX2C-240A | W78KACXSX-18 | | 240 VAC, 50/60 Hz | 15,700 Ω |
| 782XDX2M4L-12D | 782XDX2C-12D | W78KCSX-12 | 782XDXH21-12D | 12 VDC | 160 Ω |
| 782XDX2M4L-24D | 782XDX2C-24D | W78KCSX-13 | 782XDXH21-24D | 24 VDC | 650 Ω |
| 782XDX2M4L-110D | 782XDX2C-110D | | | 110/125 VDC | 11,000 Ω |
| PRINTED CIRCUIT BIFURCATED CONTACTS 3 AMP | | | | | |
| | 782XDX3CT-24A | W78APCX-3 | | 24 VAC, 50/60 Hz | 180 Ω |
| | 782XDX3CT-120A | W78APCX-5 | | 110/120 VAC, 50/60 Hz | 4430 Ω |
| | 782XDX3CT-12D | W78PCX-2 | | 12 VDC | 15700 Ω |
| | 782XDX3CT-24D | W78PCX-3 | | 24 VDC | 160 Ω |
| | 782XDX3CT-110D | W78PCX-6 | | 110/125 VDC | 11,000 Ω |

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9/04

1...23